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| 10/032,850 | 11/01/2001 | William A. Briese | 16-019 | 9029 |

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| EXAMINER | |
|---|---|
| MAYES, MELVIN C | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1734 | |

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/032,850 | BRIESE, WILLIAM A. | |
| | Examiner | Art Unit | |
| | Melvin Curtis Mayes | 1734 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8,10-13,15-26 and 28-58* is/are pending in the application.

4a) Of the above claim(s) *16-22,36-45,48,49 and 51-57* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-13,15,23-26,28-35,46,47,50 and 58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

(1)

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

(2)

Claims 13 and 15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for moving the platen up and down based on output from a position sensor coupled to the pressure roller for determining distance between the **platen** and the glass surface, does not reasonably provide enablement for moving the platen up and down based on output from a position sensor coupled to the pressure roller for determining distance between the **dispenser** and the glass surface. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

According to the specification, the distance between the platen and glass is sensed by sensor mounted to the pressure roller and the platen moved in response to the sensed distance (pg. 4, lines 2-5). The specification is not enabling for the position sensor mounted to the pressure roller sensing the distance between the dispenser (instead of the platen) and the glass and an actuator moving the platen in response to this sensed distance.

(3)

Claims 13 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 13 claims an actuator for moving the platen up and down. The specification describes a motor for moving the tape dispenser up and down but there is no description of an actuator for moving the platen up and down.

(4)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

(5)

Claims 12, 25 and 28-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 claims the tape spool and rewind spool rotatably mounted to "said frame" but then claims the tape spool and rewind spool mounted to a removable cartridge that attaches to "said frame." Are the tape spool and rewind spool mount to the frame or to a cartridge that attaches to the frame? For purposes of examination, the claims are interpreted to encompass the tape spool, drive roller, platen and rewind spool being mounted to the frame via being mounted to a removable cartridge.

Claims 25 and 28-33 recite the limitation "said frame." There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "said pressure roller." There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

(6)

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(7)

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhn et al. 2003/0056905.

Kuhn et al. disclose a tape applicator for applying tape to a sheet of glass comprising: a tabletop 14 for supporting a sheet of glass; a support arm 18 (gantry) for supporting and moving the tape head 100 to different locations in the x-axis direction on the tabletop; y-axis actuator 32 (dispenser actuator) for moving the tape head in the y-axis direction on the tabletop; z-axis actuator 36 to move the tape head up and down relative to the tabletop; and rotary actuator 34 to rotate the tape head around the z-axis of the tape head. The tape applicator comprises tape head 100 (tape dispenser) connected to frame 40 by rotary actuator 34, the tape head comprising tape roll holder 102 (tape spool) for receiving a roll of tape having a liner; an unwind roller 106 (drive roller) including a motor to drive the roller to pull the tape from the roll of tape; a rotary die 122 to cut shapes in the tape; an application roller 152 (pressure roller) on an applying roller arm 151

movable by an air cylinder (pneumatic actuator) for applying the tape to the glass; a platen 154 with an edge 146 to separate the liner from the tape; a liner take-up roller 170 (rewind spool) driven by a motor. The tape applicator comprises a controller for sending signals to the actuators as to where to move the tape head relative to the tabletop. The tape roll holder and the liner take-up roller each include a friction clutch to provide tension [0039]-[0077].

By providing the tape head having tape roll holder, unwind roller, platen and take-up roller as connected to the frame by the rotary actuator, a tape spool, drive roller, platen and rewind spool are obviously mounted to a frame by being mounted to a removable cartridge attached to the frame, as claimed in Claim 12, and the tape dispenser includes a removable cartridge comprising tape spool, platen and rewind spool mounted to the cartridge of the dispenser, as claimed in Claim 24.

(8)

Claims 1, 2, 5-11, 23-25, 28-35, 46, 47 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kuhn et al. in view of Dailey, Jr. 2002/0170663.

Kuhn et al. disclose a tape applicator for applying tape to a sheet of glass comprising: a tabletop 14 for supporting a sheet of glass; a support arm 18 (gantry) for supporting and moving the tape head 100 to different locations in the x-axis direction on the tabletop; y-axis actuator 32 (dispenser actuator) for moving the tape head in the y-axis direction on the tabletop; z-axis actuator 36 to move the tape head up and down relative to the tabletop; and rotary actuator 34 to rotate the tape head around the z-axis of the tape head. The tape applicator comprises tape head 100 (tape dispenser) connected to frame 40 by rotary actuator 34, the tape head comprising tape roll holder 102 (tape spool) for receiving a roll of tape having a liner; an unwind roller 106 (drive

roller) including a motor to drive the roller to pull the tape from the roll of tape; a rotary die 122 to cut shapes in the tape; an application roller 152 (pressure roller) on an applying roller arm 151 movable by an air cylinder (pneumatic actuator) for applying the tape to the glass; a platen 154 with an edge 146 to separate the liner from the tape; a liner take-up roller 170 (rewind spool) driven by a motor. The tape applicator comprises a controller for sending signals to the actuators as to where to move the tape head relative to the tabletop. The tape roll holder and the liner take-up roller each include a friction clutch to provide tension [0039]-[0077]. Kuhn et al. disclose that to determine the initial location of the tape head on the tabletop, the actuators can include sensors to determine the location, but do not disclose an optical sensor for detecting the edge of the glass sheet.

Dailey, Jr. teaches that tape applicator for applying tape to glass panel is provided with a sensor 54 mounted to the applicator head to detect the edge of the glass panel as it is approached by the tape applicator and provide signals to the controller which controls the positioning, movement and operation of the tape applicator [0026]-[0027].

It would have been obvious to one of ordinary skill in the art to have modified the tape applicator of Kuhn et al. or Erickson by providing a sensor, as taught by Dailey, Jr., to detect the edge of the glass sheet as it is approached by the tape applicator and provide signals to the controller which controls the positioning, movement and operation of the tape applicator. Providing the sensor as an optical sensor would have been obvious to one of ordinary skill in the art as a sensor which can detect the edge of a glass panel. By providing the sensor to detect edges so as to provide the controller with signals to control the positioning, movement and operation of the tape applicator, a controller is obviously provided which is capable of determining a sensed

position and orientation of the glass sheet or plate based on the sensor outputs and moving the frame or tape dispenser to apply the tape based on the sensed position and orientation, as claimed in Claims 1, 23, 24 and 50.

Further, it would have been obvious to one of ordinary skill in the art to have provided the applicator with a sensor to determine the distance between the applicator and the sheet of glass, as claimed in Claims 8, 31, 32 and 46 to determine the position the applicator in the z-axis (up and down) direction with respect to the glass for application of the tape, as Kuhn et al. suggest including sensors to determine the location of the applicator.

By providing the tape head having tape roll holder, unwind roller, platen and take-up roller as connected to the frame by the rotary actuator, the tape dispenser obviously includes a removable cartridge comprising tape spool, platen and rewind spool mounted to the cartridge of the dispenser, as claimed in Claim 24.

(9)

Claims 3 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to Claims 1 and 23, further in view of Higgins 4,285,752.

Higgins teaches in automatic tape laying systems for depositing tape on a surface from a supply reel, an encoder is provided responsive to rotation of a driven roller for accurately measuring the amount of tape transported from the tape supply reel (col. 5, lines 7-13).

It would have been obvious to one of ordinary skill in the art to have modified the tape applicator of the references as combined by providing the drive roller with an encoder (sensor), as taught by Higgins, to be responsive to rotation of the drive roller for accurately measuring the amount of tape transported from the tape supply reel.

(10)

Claim 13 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhn et al. in view of Luhman 4,781,782 and Higgins.

Kuhn et al. or Erickson discloses a tape applicator for applying tape to a sheet of glass comprising: a tabletop 22 for supporting a sheet of glass; a support arm 18 (gantry) for supporting and moving the tape head 100 to different locations in the x-axis direction on the tabletop; y-axis actuator 32 (dispenser actuator) for moving the tape head in the y-axis direction on the tabletop; z-axis actuator to move the tape head up and down relative to the tabletop; and rotary actuator to rotate the tape head around the z-axis of the tape head. The tape head 100 comprises a base 101 (frame); tape roll holder 102 (tape spool) for receiving a roll of tape having a liner; an unwind roller 106 (drive roller) including a motor to drive the roller to pull the tape from the roll of tape; a rotary die 122 to cut shapes in the tape; an application roller 152 (pressure roller) on an applying roller arm 151 movable by an air cylinder (pneumatic actuator) for applying the tape to the glass; a platen 154 with an edge 146 to separate the liner from the tape; a liner take-up roller 170 (rewind spool) driven by a motor; and a controller for sending signals to the actuators as to where to move the tape head relative to the tabletop. The tape roll holder and the liner take-up roller each include a friction clutch to provide tension. Kuhn et al. disclose that to determine the initial location of the tape head on the tabletop, the actuators can include sensors to determine the location [0039]-[0077]. Kuhn et al. do not disclose the unwind roller (drive roller) mounted by a servo motor that includes a first sensor that measure a length of the tape.

Luhman et al. teach that a drive roller for a taping head is driven by a servo motor to drive the drive roller at varying speeds (col. 3, lines 39-41).

Higgins teaches that in automatic tape laying systems, an encoder is provided responsive to rotation of a roller for accurately measuring the amount of tape transported from the tape supply reel (col. 5, lines 7-13).

It would have been obvious to one of ordinary skill in the art to have modified the tape applicator of Kuhn et al. or Erickson by driving the unwind roller (drive roller) by a servo motor, as taught by Luhman et al., to drive the drive roller at varying speeds. Providing the servo motor with an encoder (sensor) would have been obvious to one of ordinary skill in the art, as taught by Higgins, to accurately measure the amount of tape transported from the tape supply reel.

Further, it would have been obvious to one of ordinary skill in the art to have provided the applicator with a sensor to determine the distance between the applicator and the sheet of glass, as claimed by the position sensor, to determine the position the applicator in the z-axis (up and down) direction with respect to the glass for application of the tape, as Kuhn et al. suggest including sensors to determine the location of the applicator.

(11)

Claim 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to Claim 13, further in view of Dailey, Jr.

Dailey, Jr. teaches that tape applicator for applying tape to glass panel is provided with a sensor 54 mounted to the applicator head to detect the edge of the glass panel as it is approached by the tape applicator and provide signals to the controller which controls the positioning, movement and operation of the tape applicator [0026]-[0027].

It would have been obvious to one of ordinary skill in the art to have modified the tape applicator of the references as combined by providing a sensor, as taught by Dailey, Jr., to detect

the edge of the glass sheet as it is approached by the tape applicator and provide signals to the controller which controls the positioning, movement and operation of the tape applicator. Providing the sensor as an optical sensor would have been obvious to one of ordinary skill in the art as a sensor which can detect the edge of a glass panel.

Further, it would have been obvious to one of ordinary skill in the art to have provided the applicator with a sensor to determine the distance between the applicator and the sheet of glass, as claimed in Claim 14 to position the applicator in the z-axis (up and down) direction with respect to the glass for application of the tape, as Kuhn et al. or Erickson suggest including sensors to determine the location of the applicator.

(12)

Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhn et al. 2003/0056905 in view of Luhman and Higgins.

Kuhn et al. disclose a tape applicator for applying tape to a sheet of glass comprising: a tabletop 14 for supporting a sheet of glass; a support arm 18 (gantry) for supporting and moving the tape head 100 to different locations in the x-axis direction on the tabletop; y-axis actuator 32 (dispenser actuator) for moving the tape head in the y-axis direction on the tabletop; z-axis actuator to move the tape head up and down relative to the tabletop; and rotary actuator to rotate the tape head around the z-axis of the tape head. The tape applicator comprises tape head 100 connected to frame 40 by rotary actuator 34, the tape head comprising tape roll holder 102 (tape spool) for receiving a roll of tape having a liner; an unwind roller 106 (drive roller) including a motor to drive the roller to pull the tape from the roll of tape; a rotary die 122 to cut shapes in the tape; an application roller 152 (pressure roller) on an applying roller arm 151 movable by an air

cylinder (pneumatic actuator) for applying the tape to the glass; a platen 154 with an edge 146 to separate the liner from the tape; a liner take-up roller 170 (rewind spool) driven by a motor; and a remover 140 (chad remover) to remove the removable portion of the tape from the liner. The tape applicator comprises a controller for sending signals to the actuators as to where to move the tape head relative to the tabletop and to stop the liner for actuating the remover to remove the removable portion of tape from the liner. The tape roll holder and the liner take-up roller each include a friction clutch to provide tension to keep the liner taunt [0039]-[0077].

Luhman et al. teach that a drive roller for a taping head is driven by a servo motor to drive the drive roller at varying speeds (col. 3, lines 39-41).

Higgins teaches that in automatic tape laying systems, an encoder is provided responsive to rotation of a roller for accurately measuring the amount of tape transported from the tape supply reel (col. 5, lines 7-13).

It would have been obvious to one of ordinary skill in the art to have modified the tape applicator of Kuhn et al. by driving the unwind roller (drive roller) by a servo motor, as taught by Luhman et al., to drive the drive roller at varying speeds. Providing the servo motor with an encoder (sensor) would have been obvious to one of ordinary skill in the art, as taught by Higgins, to accurately measure the amount of tape transported from the tape supply reel.

***Response to Arguments***

(13)

Applicant's arguments filed October 28, 2003 have been fully considered but they are not persuasive.

Applicant argues that Claims 1, 23 and 50 recite an optical senor for use in conjunction with a controller to determined orientation of a glass sheet, while Dailey Jr. recites a sensor for detecting two successive corners approached by the tape head, which assumes that the glass is oriented a particular way. Applicant argues that Kuhn et al. do not suggest controlling up/down position of the tape dispenser by a position sensor, as claimed in Claim 13, by movement of the pressure wheel sensed by a position sensor, as claimed in Claim 46.

(14)

As suggested by Dailey, Jr., it is know to provide a tape applicator for applying tape to glass panel with a sensor mounted to the applicator head to detect the edge of the glass panel as it is approached by the tape applicator and provide signals to the controller which controls the positioning, movement and operation of the tape applicator based on the signals from the sensor. The use of such as sensor is not limited to two successive edges as argued because the reference teaches that the shape of the panel can be any shape including irregularly shaped. This suggests that the glass sheet does not have to be oriented a particular way, as argued, but that the controller can be used to move the tape head to apply tape regardless of the orientation or shape of the glass by determining the orientation of the glass based on output from the sensor.

Claims 13 claims moving the platen up and down, not the tape dispenser. Nevertheless, as set forth in the rejections, it would have been obvious to one of ordinary skill in the art to have

provided the applicator with a sensor to determine the distance between the applicator and the sheet of glass, as claimed by the position sensor, to determine the position the applicator in the z-axis (up and down) direction with respect to the glass for application of the tape, as Kuhn et al. suggest including sensors to determine the location of the applicator with respect to the glass.

***Conclusion***

(15)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Curtis Mayes whose telephone number is 571-272-1234. The examiner can normally be reached on Mon-Fri 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Melvin Curtis Mayes
Primary Examiner
Art Unit 1734

MCM
January 8, 2004